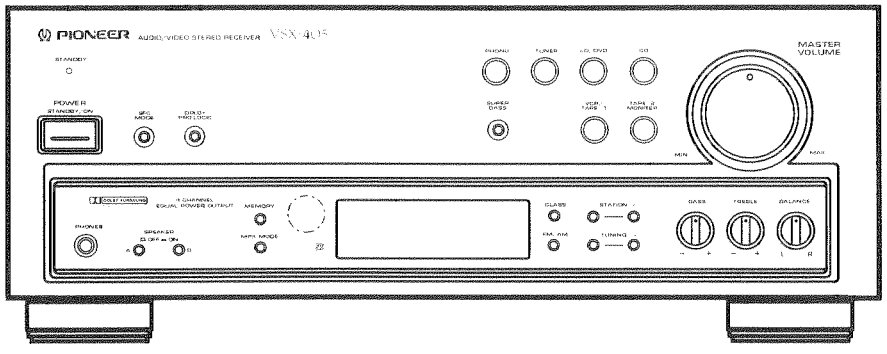
Operating Instructions

AUDIO/VIDEO STEREO RECEIVER

VSX-405
VSX-305
VSX-295

SPARE PARTS MASTER



● Illustration shows model VSX-405

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

WARNING:TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

[For Canadian model]

CAUTION : TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

RETURN function
This function returns the unit to a set of initial settings and ready to broadcast tuner. This is helpful during troubleshooting or when no sound is output. For details, refer to page 13 concerning model VSX-295, refer to page 20 except model VSX-295.

PIONEER®
The Art of Entertainment

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS – All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.

HEED WARNING – All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS – All operating and use in-structions should be followed.

WATER AND MOISTURE – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet base-ment, or near a swimming pool, etc.

LOCATION – The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING – The appliance should not be mounted to a wall or ceiling.

VENTILATION – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a builtin installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION – If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING – The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES – An outdoor antenna should be located away from power lines.

NONUSE PERIODS – The power cord of the appliance should be unplugged from the outlet when left un-used for a long period of time.

OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE – The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

SERVICING – The user should not attempt to service the appliance beyond that described in the operating instructions.All other servicing should be referred to qualified service personnel.

OUTDOOR ANTENNA GROUNDING – If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

CART – An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

NEC – NATIONAL ELECTRIC CODE

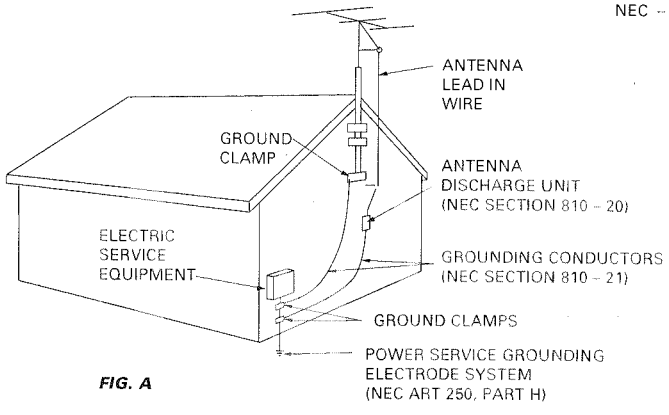

ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810 – 20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810 – 21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

FIG. A

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

CONTENTS

BEFORE OPERATING, ADJUST THE POSITION OF THESE SWITCHES 4
ACCESSORY ITEMS 4
SURROUND EFFECT AND DOLBY 3CH LOGIC (Not available on the VSX-295 model) 5
DOLBY PRO LOGIC SURROUND, CENTER MODE (Not available on the VSX-295 model) 5
SPEAKER INSTALLATION (Not available on the VSX-295 model) 6
REAR PANEL FACILITIES 7
CONNECTIONS 9
FRONT PANEL FACILITIES 13
OPERATING THE TUNER 15
TUNING INTO STATIONS 15
PRESET TUNING 16
RECEIVING FM SIMULCAST TV PROGRAMS 16
OPERATING THE AUDIO/VIDEO COMPONENTS 16
PLAYBACK 17
RECORDING WITH A CASSETTE DECK 17
VIDEO RECORDING 17
SURROUND EFFECT AND DOLBY 3CH LOGIC (Not available on the VSX-295 model) 18
VSX-405,VSX-305, REMOTE CONTROL OPERATION 19
VSX-295 REMOTE CONTROL OPERATION 22
TROUBLESHOOTING 25
SPECIFICATIONS 27

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

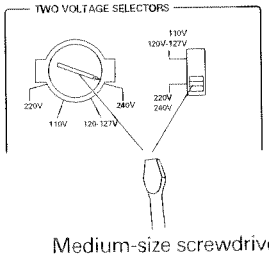
BEFORE OPERATING, ADJUST THE POSITION OF THESE SWITCHES

TWO VOLTAGE SELECTOR SWITCHES (Not available on U.S. and Canadian models)

Only multi-voltage models are provided with these switches. U.S. and Canadian models are not provided these switches. Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with the 110 V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Check that they are set properly before plugging the power cord into the household wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Use a medium-size screwdriver.
2. First, insert the screwdriver in the groove of the voltage selector at the right, and adjust so that the tip of the groove points to the voltage value of your area.
3. Next, insert the screwdriver in the groove of the voltage selector at the left and adjust until the voltage is the same as at the right.



Medium-size screwdriver

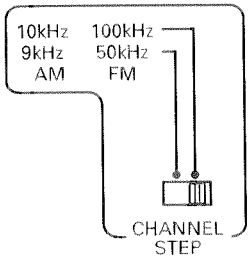
CHANNEL STEP SWITCH (Not available on U.S. and Canadian models)

The unit has been factory preset to the channel allocation value for the area in which it is to be sold. If this value is set incorrectly, the tuned in frequency may be wrong, or sound may be distorted, resulting in an inability to reproduce reception signals at their proper sound quality. For this reason, be sure to confirm that the values are set correctly before first using the unit.

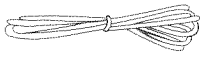
(FM 100 kHz/AM 10 kHz) position:
Set to this position for areas with an FM reception step of 100 kHz and AM 10 kHz.

(FM 50 kHz/AM 9 kHz) position:
Set to this position, for areas with an FM reception step of 50 kHz and AM 9 kHz.

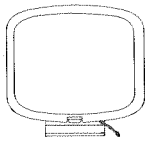
NOTE:
When unsure about the channel allocation for your area, consult your dealer for correct information.



ACCESSORY ITEMS

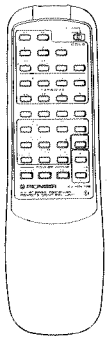


FM Antenna

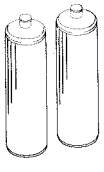


AM Loop Antenna

VSX-405
VSX-305

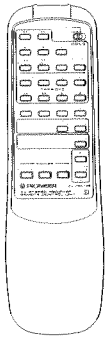


Remote control unit

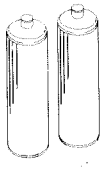


Dry cell battery (size "AA"/IEC R6) x 2

VSX-295



Remote control unit



Dry cell battery (size "AA"/IEC R6) x 2

SURROUND EFFECT AND DOLBY 3CH LOGIC (Not available on the VSX-295 model)

This unit has a built-in surround processor for adding presence and an expansive effect to the sound.

STUDIO:
Select this position to enjoy the effect of listening to music in a recording studio.
The source sound is output as it is through the front speakers, with reverberation output through the rear speakers.
This is particularly suitable for a source that has a lot of reverberation.

SIMULATED SURROUND:
The "SIMULATED SURROUND" creates effects of reverberated and reflected sound from the walls and ceiling similar to a concert hall. These sound-effects added to the actual sound from the source make you feel as if you were in a more expanded space. The different ranges of the expanded space can be set by the DELAY TIME button.
Set the Delay Time to 15 ms or 20 ms for a live-house concert. For chamber music, set to 20 ms. For orchestral music, set to 30 ms. The "SIMULATED SURROUND" also gives effects on monaural sources by outputting the reverberated sound from rear speakers while keeping the output sound from front speakers as it is. Turn on the "SIMULATED SURROUND" for a monaural source to gain effective surround playback.

DOLBY 3CH LOGIC:
Combining the rear speaker signal with that of the front speakers results in your being able to enjoy a regenerated sound field which has comparatively more presence and a more expansive feeling from the front 3 channels (front L, front R, and center speakers) than that of ordinary stereo regeneration.

DOLBY* PRO LOGIC SURROUND:
Choose this setting for movies and music (especially Video Discs and video tapes bearing the DOLBY SURROUND mark) playback.DOLBY PRO LOGIC SURROUND continuously detects the size and direction of the dominant signal and cancels undesirable crosstalk, thereby providing signal emphasis.
It makes you clearly perceive the directions where music comes from. Real flow of sound also can be re-created naturally using this feature. You can feel as if being in the outstanding and expansive sound field.When using DOLBY PRO LOGIC SURROUND, a delay time setting of 20 ms is commonly used. Use a different setting if you prefer.Even if they do not bear the DOLBY SURROUND mark, some video recordings may be Dolby Surround encoded.Choose the SIMULATED SURROUND mode if the source sound signal is mono. Little or no sound will be heard from the surround speakers if the STADIUM or DOLBY PRO LOGIC SURROUND mode is selected.
With DOLBY PRO LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

Note:
Dolby Surround will not operate correctly if the signal passes through a graphic equalizer. When using Dolby Surround, turn off the TAPE 2 MONITOR or set the graphic equalizer for flat response or to its "through" (or off) setting, if you have one in use.

*
Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", the double-D symbol and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

DOLBY PRO LOGIC SURROUND, CENTER MODE (Not available on the VSX-295 model)

(For DOLBY PRO LOGIC SURROUND)
You can choose from the following settings:

Center Mode Choices:
When using a center speaker:

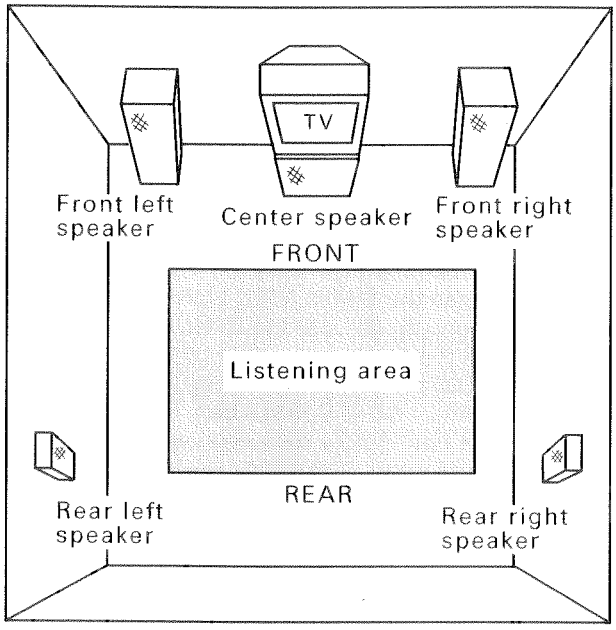
- **NORMAL** — Low range frequencies, which have little effect on directionality and positioning, are routed to the left and right front speakers. So you can use a relatively small size speaker as the center speaker.
- **WIDE** — If you use a large size center speaker, choose this setting. The full frequency range of the Dolby Surround center channel, from low to high, is routed to the center speaker.
- **PHANTOM** — The signal which would have been sent to the center speaker is divided equally between the left and right front speakers.

  With DOLBY PRO LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

SPEAKER INSTALLATION (Not available on the VSX-295 model)

To get the most out of the surround system, place the speakers as shown below.

An example of speaker location



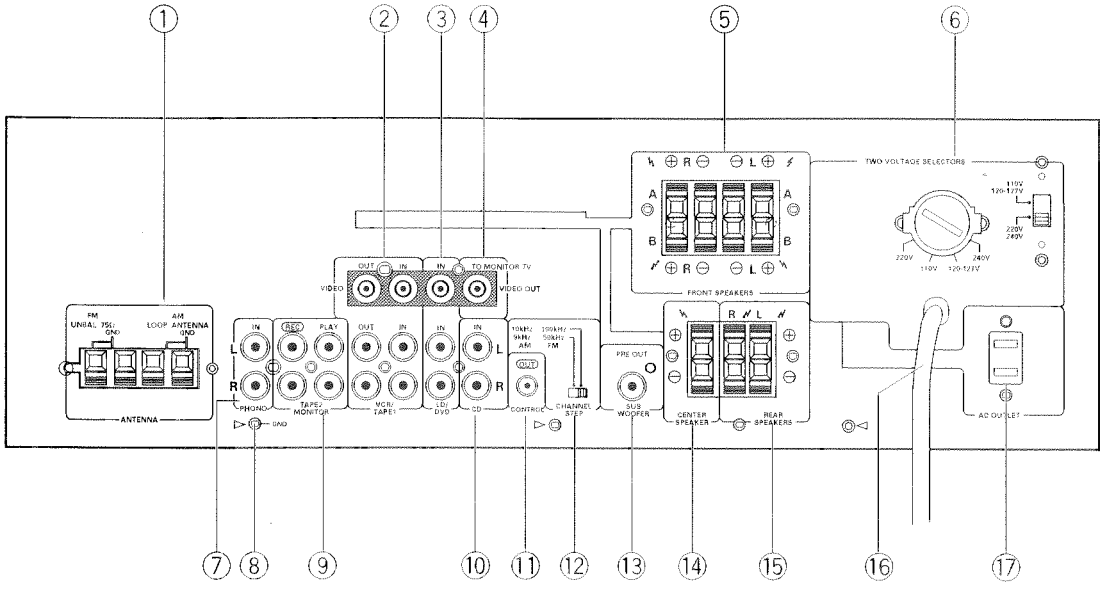
If the rear speakers are positioned at an extreme distance, the surround level will be unable to adjust and the surround effect will not be fully achieved.

NOTE:

- *To avoid interference with the picture on a nearby TV set, use magnetically shielded speaker systems. This is particularly important for the center speaker since it is usually located closest to the TV.*
- *Position the left and right channel speakers at equal distances from the TV set and approximately 1.8 m (6 feet) from each other.*
- *Position the center speaker above, below, or behind the TV set. Sound may not appear to coincide with the picture if you position it next to the TV set.*
- *Rear speakers are best positioned slightly above ear level.*

REAR PANEL FACILITIES

Illustration shows VSX-405 Multi-voltage model.



① FM/AM ANTENNA terminals

② VCR/TAPE 1 jacks
Connect to the first cassette deck or a VCR. With a VCR, also connect the video jacks.

③ LD/DVD input jacks

④ VIDEO OUT (TO MONITOR TV) jack

⑤ FRONT SPEAKERS terminals
A: Connect to the first set of speakers.
B: Connect to the second set of speakers.
NOTE:
Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use front speakers with an impedance of 8 Ω to 16 Ω.

⑥ TWO VOLTAGE SELECTORS switches (Multi-voltage model only)
See page 4.

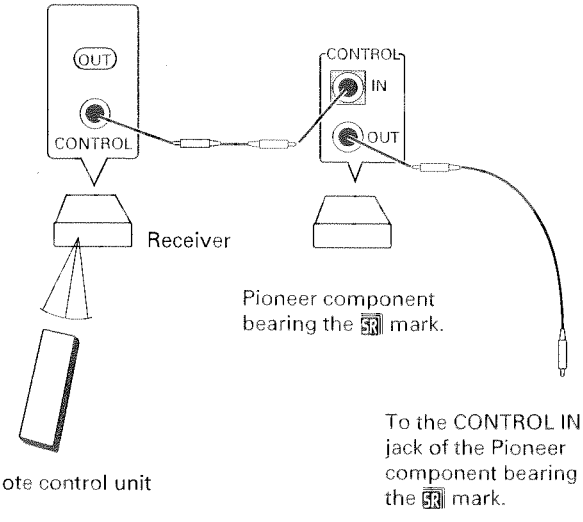
⑦ PHONO input jacks
Connect to the output cables from a turntable.

⑧ GND terminal
Connect the turntable ground lead to this terminal.

⑨ TAPE 2 MONITOR jacks
Connect to audio components such as a second cassette deck or a graphic equalizer.

⑩ CD input jacks

⑪ CONTROL OUT jacks
OUT: Connect this jack to other Pioneer components when using the remote control of this unit to control the other components.



⑫ CHANNEL STEP switch (Multi- voltage model only)

See page 4.

⑬ SUB WOOFER PRE-OUT jack (Not available on the VSX-305 model)

If you want to boost the low frequencies, connect to a subwoofer power amplifier.

⑭ CENTER SPEAKER terminals (Not available on the VSX-295 model)

Connect the center speaker to these terminals.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other. Use center speakers with impedance of 8 Ω to 16 Ω.

⑮ REAR SPEAKERS terminals (Not available on the VSX-295 model)

Connect the rear speakers to these terminals.

NOTE:

- *Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other. Use rear speakers with impedance of 8 Ω to 16 Ω.*
- *Be sure to connect two speakers (L, R). There will be no sound if only one speaker is connected.*

⑯ Power cord

⑰ AC OUTLET

(U.S. and Canadian models)

[SWITCHED 100 W (0.8 A) MAX]

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Electrical power consumption of connected equipment should not exceed 100 W (0.8 A).

(Multi-voltage model)

[SWITCHED 100 W MAX]

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment shold not exceed 100 W.

NOTE:

- *This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.*
- *Do not connect appliances with high power consumption such as heaters, irons, or television sets to this AC OUTLET in order to avoid overheating and fire risk. This can cause the receiver to malfunction.*

CAUTION:
DO NOT CONNECT MONITOR OR TV SET.

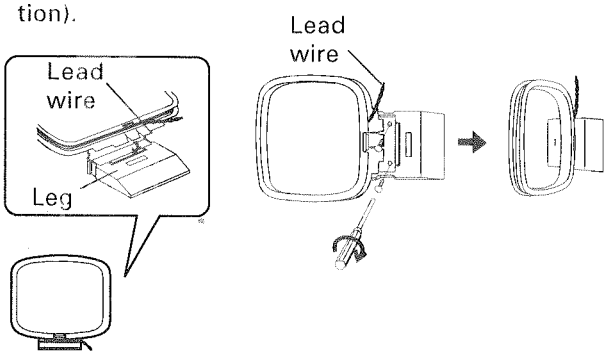
POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

CONNECTIONS

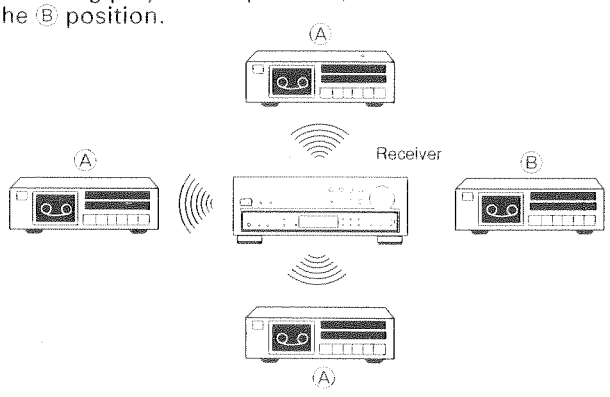
Setting Up the AM Antenna

- Insert the claw on the bottom of the antenna into the hole in the leg.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.
- Use the attachment hole in the leg to screw it to the wall or other location, then insert the claw on the bottom of the antenna into the hole in the leg (affixing the antenna in the direction that gives the best reception).



Precaution regarding installation position of cassette deck.

If the cassette tape deck is installed in the Ⓐ positions as shown in the drawing below, it may be adversely affected during playback. If possible, it is better to install it in the Ⓑ position.



HINTS FOR BETTER RECEPTION

EXTERNAL FM ANTENNA

The main advantage of FM over AM is the quality of the broadcast signal. In order to benefit fully from the high signal quality of FM broadcasts, it is recommended that a special-purpose FM antenna be installed. In weak signal areas, a multi-element (3-element, 5-element, 7-element) antenna should be used.

GROUNDING

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl-insulated wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.

NOTE:
Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.

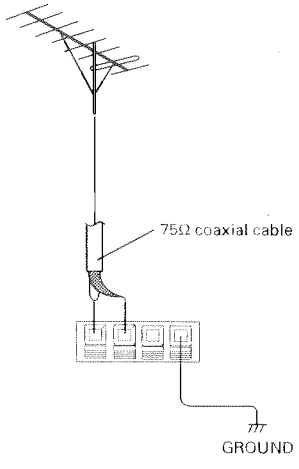
EXTERNAL AM ANTENNA

If it is not possible to obtain adequate AM reception even by changing the orientation of the AM loop antenna, a separate indoor antenna or an outdoor antenna should be installed.

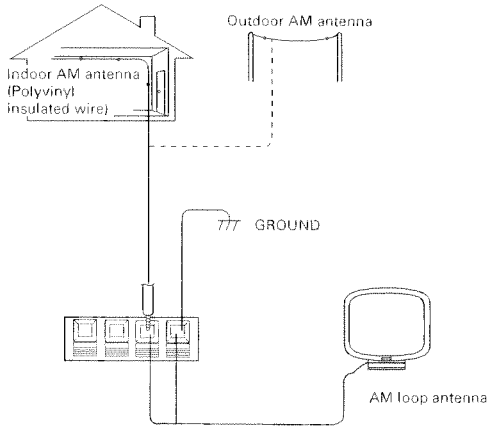
INDOOR AM ANTENNA
Use a vinyl-insulated wire 5 to 6 meters long (15 to 18 feet) and connect one end to the AM antenna terminal and affix the other end to the wall or ceiling, as high as possible.
NOTE:
Do not detach the AM loop antenna when using an indoor or an outdoor AM antenna.

OUTDOOR AM ANTENNA
If reception quality is not improved sufficiently even when an indoor antenna is used, a vinyl-insulated wire should be installed outside and fixed in place.

Connecting the 75 Ω coaxial cable



AM antenna connection



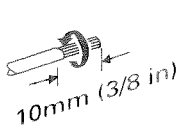
AUDIO SYSTEM CONNECTIONS

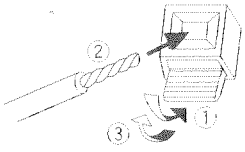
NOTE FOR FM ANTENNA:
Stretch the antenna out to its full length, and affix it to a wall, etc.
NOTE FOR AM LOOP ANTENNA:
The antenna should be placed at a distance from the receiver, and should not be allowed to touch metallic objects.
Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

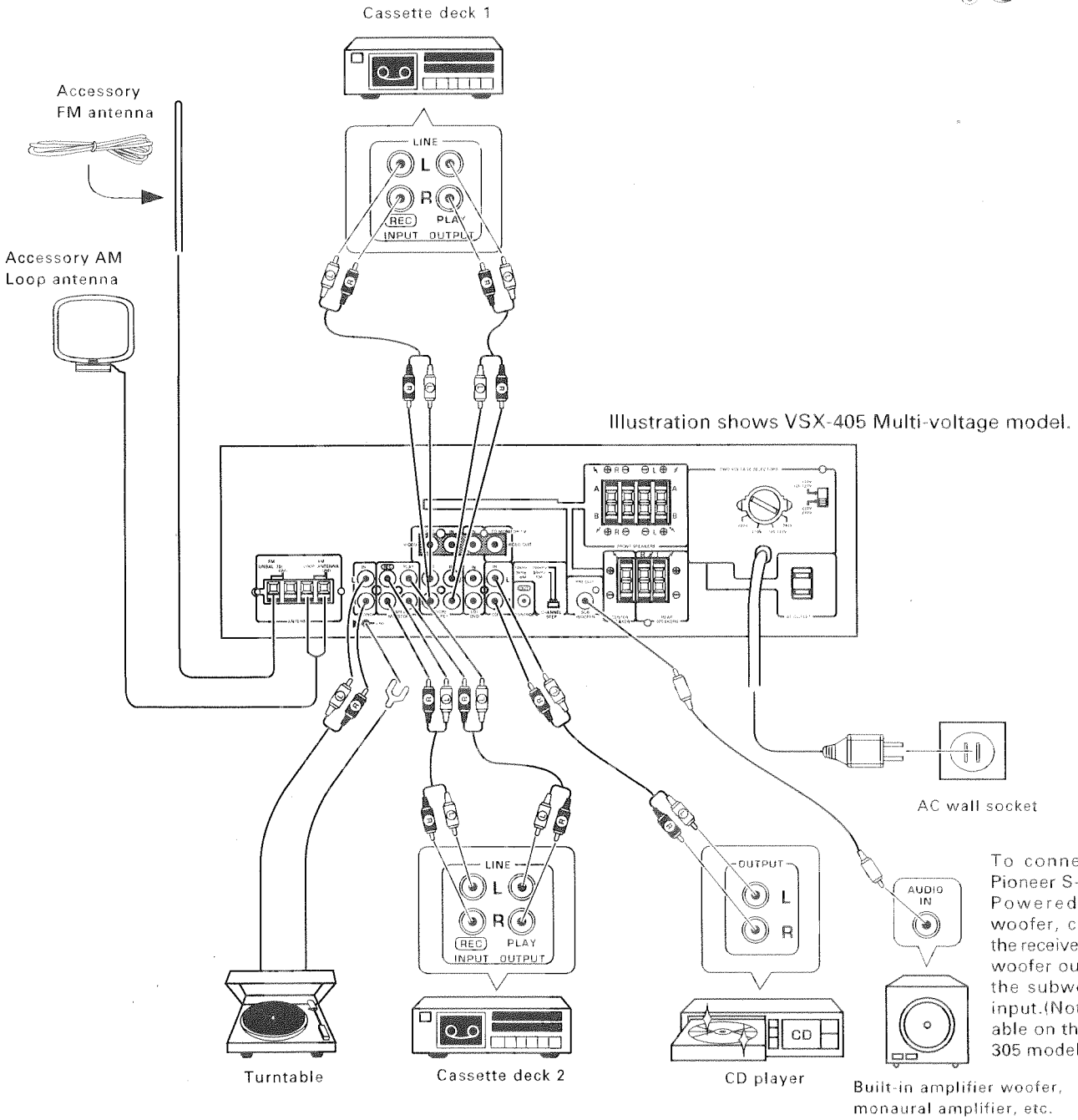
★ Use if you want an additional power amplifier to boost center channel power output.

AM loop antenna and FM antenna connection

① Push the lever.
② Insert the wire into the hole.
③ Pull the lever back.

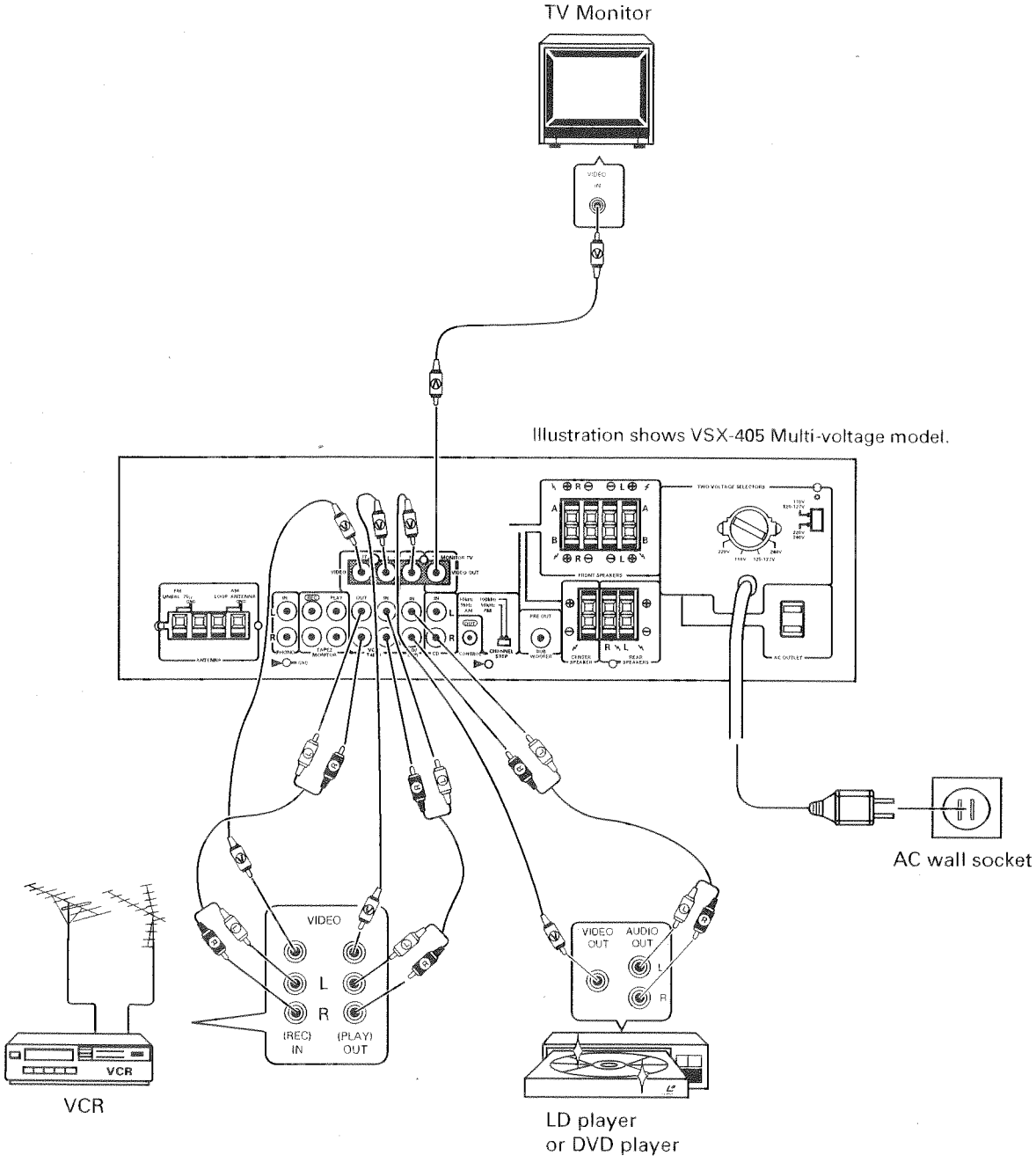






To connect the Pioneer S-W1000 Powered Subwoofer, connect the receiver's subwoofer output to the subwoofer's input.(Not available on the VSX-305 model)

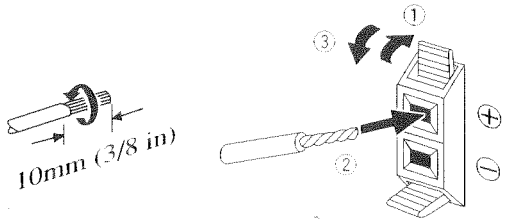
VIDEO SYSTEM CONNECTIONS



SPEAKER CONNECTIONS

Speaker cord connection

① Push the lever down (or up).
② Insert the cord into the hole.
③ Pull the lever back.



NOTE:
Use speakers with impedance of 8 Ω to 16 Ω.

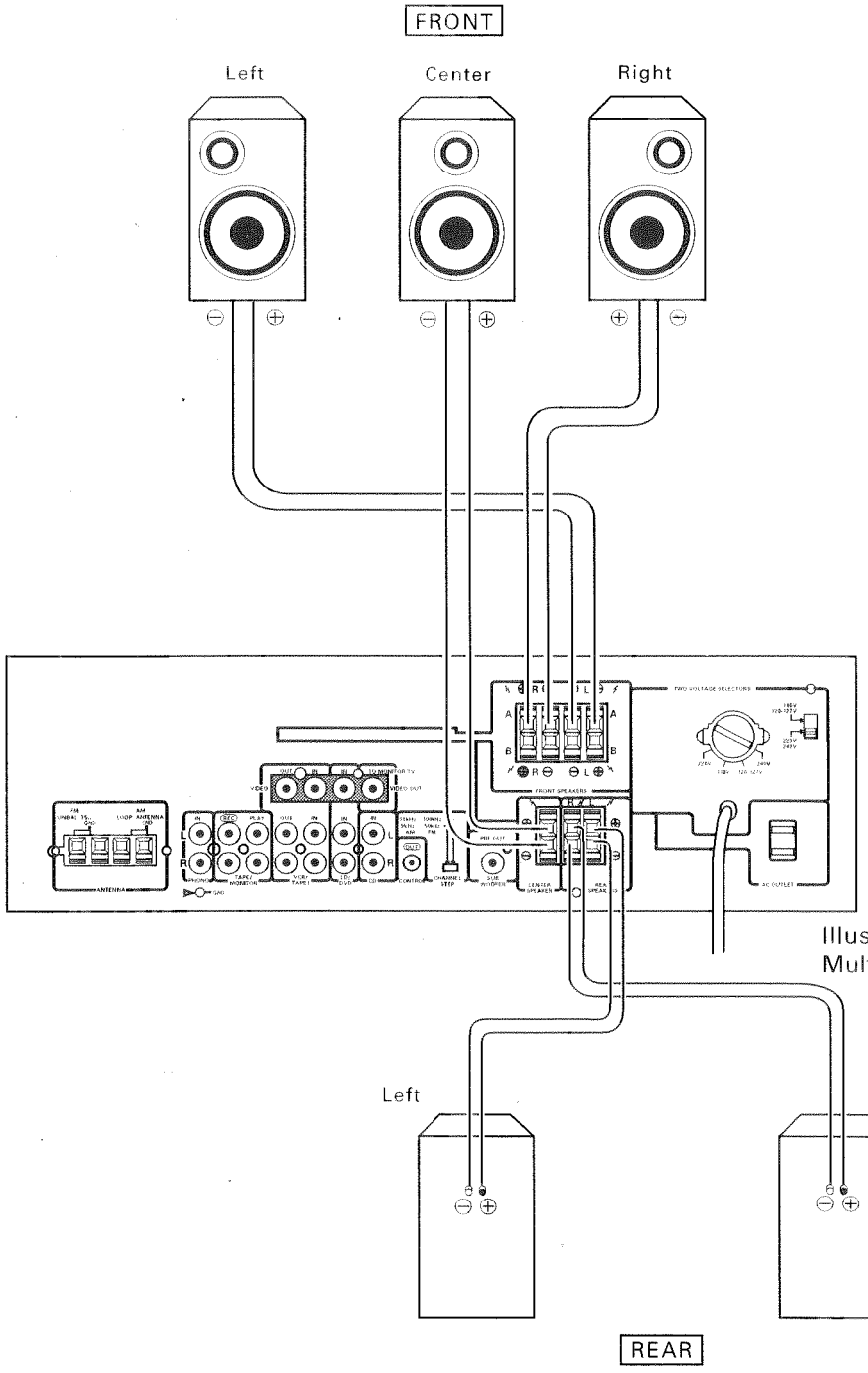
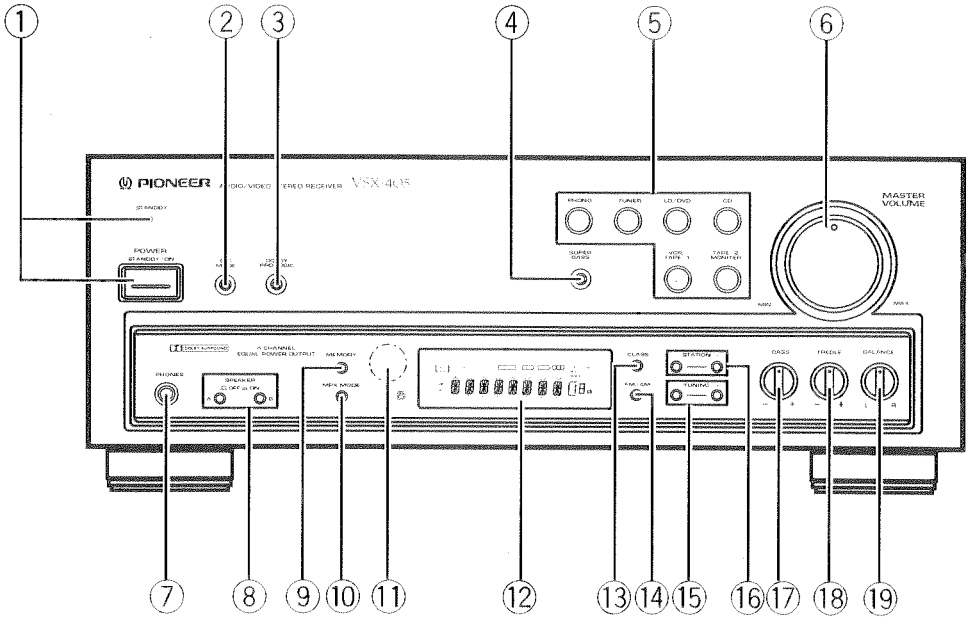


Illustration shows VSX-405 Multi-voltage model.

FRONT PANEL FACILITIES

● Illustration shows model VSX-405.



① POWER STANDBY/ON switch STANDBY indicator

This is the switch for electric power.

ON : When set to the ON position, power is supplied and the unit becomes operational.

STANDBY : When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is set to STANDBY, and goes out when set to ON.

(Timer ON/OFF possible)

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 5 seconds.

② SFC MODE button (Not available on the VSX-295 model)

STUDIO → SIMULATED SURROUND → off

RETURN button (VSX-295 only)

Press this button to return the receiver into the initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

TAPE 2 MONITOR	OFF	MUTING	OFF
SUPER BASS	OFF	FUNCTION	TUNER (FM)

NOTE:

Press the RETURN button, and the last FM station selected is received. If reception of a station is not possible with that frequency, the mode automatically switches to AUTO TUNING.

③ DOLBY PRO LOGIC button (Not available on the VSX-295 model)

Switches DOLBY PRO LOGIC SURROUND on and off.

MUTING button (VSX-295 only)

Press to temporarily reduce sound. When set to the on position, MUTING is displayed. Press again to return to the original volume level.

④ SUPER BASS button

Press this button when you want to boost the bass.

⑤ Input selector buttons

PHONO : Press when playing records on a turntable.

TUNER : Press when listening to radio broadcasts.

LD/DVD : Press when performing playback on an LD player or DVD player.

CD : Press when playing compact discs on a CD player.

VCR/TAPE 1 : Press when performing playback on a VCR unit or cassette deck.

TAPE 2 MONITOR : Press when performing playback on a second cassette deck and when monitoring recording.

⑥ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center, and rear speakers.

Front speakers only can be adjusted with model VSX-295.

⑦ PHONES jack

Connect the plug on your headphones to this jack. Set SPEAKERS A and B switches to OFF if you want to cut the sound from the speakers and listen to it only through the headphones.

⑧ SPEAKERS buttons (A,B)
ON/OFF switches for the A and B speaker systems.

⑨ MEMORY button
Press this button to switch to the frequency preset mode.

⑩ MPX MODE buttons
Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the MONO indicator in the display section is lit.

Auto stereo mode:
Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

Monaural mode:
When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

NOTE:
This button has no effect on reception of AM broadcasts.

⑪ Remote sensor

⑫ Display section

⑬ CLASS button
Use to switch between preset memory classes 1 to 3. In each class, one station can be memorized in each of the 1 to 10 stations, enabling a total of 30 stations to be memorized.

⑭ FM/AM button
Use this to switch between FM and AM frequency band reception.

⑮ TUNING buttons
+: Performs tuning from the currently displayed station frequency in ascending frequency order.
–: Performs tuning in order of descending frequencies.

Auto tuning (FM only):
Press TUNING + (up) or – (down) button until the frequency starts to change, then release it. The tuner will automatically search for a broadcasting station and stops when one is found, and the TUNED indicator lights up. To search for another station, press again.

Manual tuning:
Press TUNING + (up) or – (down) button and release quickly. The tuning frequency will change by one step each time the button is pressed. Press as many times as necessary to tune in the desired station. The TUNED indicator lights up when the statin is tuned in best.

- If you keep the TUNING (+/–) button depressed after the frequency has began to change, the reception frequency changes continuously, and stops when the button is released.

NOTE:
When AUTO TUNING is in use, reception may not be possible over long distances or when signals are weak. At these times MANUAL TUNING is recommended.

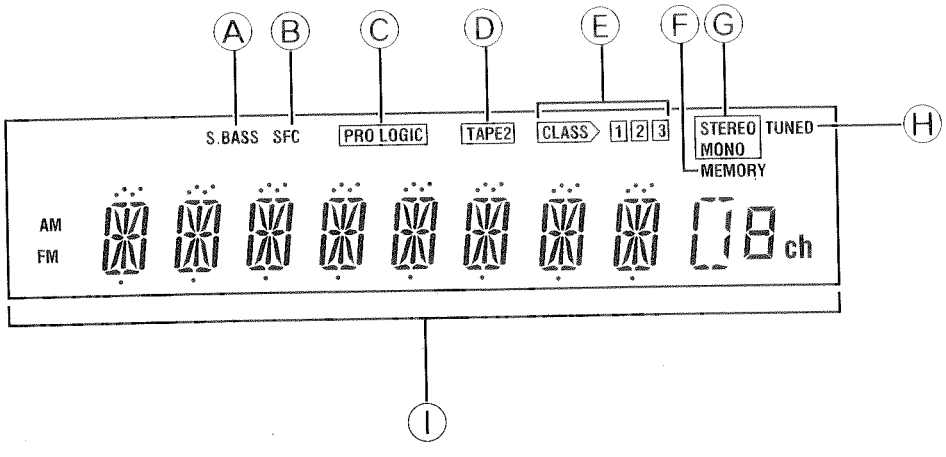
⑯ STATION (+,–) button
+ : Use to call preset station numbers in ascending order.
– : Use to call preset station numbers in descending order.

⑰ BASS control
Use to adjust the low-frequency level. Turn clockwise to boost bass and counterclockwise to attenuate bass.

⑱ TREBLE control
Use to adjust the high-frequency level. Turn clockwise to boost treble and counterclockwise to attenuate treble.

⑲ BALANCE control
Use to adjust the sound volume balance between left and right speakers.
L : Decrease the sound on the right side.
R : Decrease the sound on the left side.
Usually, left and right volume levels should be the same.

DISPLAY SECTION



Ⓐ S.BASS indicator

Ⓑ SFC indicator (Not available on the VSX-295 model)
This lights when an SFC mode (STUDIO or SIMULATED SURROUND) is selected.

Ⓒ DOLBY PRO LOGIC indicator (Not available on the VSX-295 model)

Ⓓ TAPE 2 indicator
Lights up when the input selector is set to TAPE 2 MONITOR ON.

Ⓔ CLASS indicator
Indicates the class selected by the CLASS button. The current CLASS is displayed.

Ⓕ MEMORY indicator

Ⓖ STEREO/MONO indicator
STEREO : Lights up when a stereo FM broadcast is being received.
MONO : Lights up when the FM MONO mode is select ed with the MPX MODE button.

Ⓗ TUNED indcator
Lights up when a staton is tuned.

Ⓘ Character display

OPERATING THE TUNER

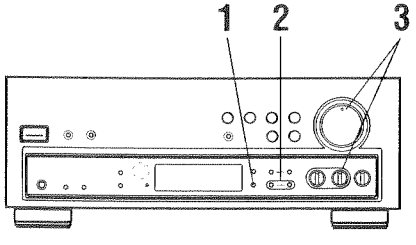
Press the POWER switch to the ON position.
Select TUNER with the input selector.
Be sure to turn the TAPE 2 MONITOR button OFF when listening to AM or FM broadcasts.
Switch ON the SPEAKERS button corresponding to the speakers you wish to use.

FM auto stereo reception and monaural reception
Each time you press the MPX MODE button, the MONO indicator in the display section lights or goes out.

- If an FM stereo broadcast is received when the MONO indicator is out, the STEREO indicator lights and sound is in stereo.
- If an FM stereo broadcast is received when the MONO indicator is lit, the sound will be monaural.
  If there is interference during STEREO mode reception, switch to MONO. The sound will become monaural but interference will be reduced.

TUNING INTO STATIONS

Press the TUNING buttons, and the tuning frequency changes.
+: Performs tuning from the currently displayed station frequency in ascending frequency order.
–: Performs tuning in order of descending frequencies.



1. Use the FM/AM button to select either FM or AM.

2. Press the TUNING (+,–) buttons until you reach the frequency of a desired station.
When a station is received, the TUNED indicator will light up.
NOTE:
The TUNED indicator may not light with broadcasts received over long distances, or when the broadcast signals are extremely weak.

3. Adjust the volume and tone controls as desired.

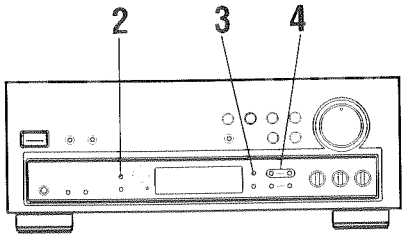
AUTO TUNING (FM only)
Auto tuning is convenient when you do not remember the frequency of a desired station, or when you wish to find stations that you do not normally listen to. (Refer to page 14.)

PRESET TUNING

FREQUENCY PRESETTING

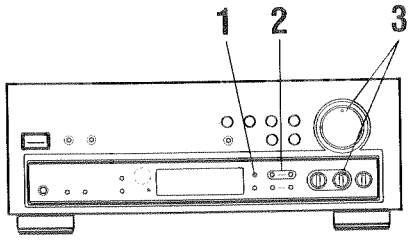
10 stations can be preset in each of the 3 classes, for a total of 30 stations presets.

CLASS 1 = 1 to 10 ch
CLASS 2 = 1 to 10 ch
CLASS 3 = 1 to 10 ch



1. **Tune into the desired station.**
   See the section "TUNING INTO STATIONS". In addition to station frequencies, the MPX MODE (auto stereo mode or monaural mode) can also be preset (FM only).
2. **Press the MEMORY button.**
   The MEMORY indicator lights and station number "--" ch, and the CLASS indicator flash. (Memory mode).
3. **Select the desired class (1-3) with the CLASS button.**
4. **Press the STATION (+,–) buttons to select the station you want to memorize.**
   - The station number lights in the display, indicating that it has been memorized.
5. **Repeat steps 1 to 4 to preset additional stations.**
   A total of 30 AM and FM stations may be preset. When you store a new preset, it takes the place of the previously stored station (if any).

LISTENING TO BROADCASTS USING PRESET TUNING



1. **Select the class number with the class button.**
2. **Press the STATION (+,–) buttons to select a station.**
3. **Adjust the volume and tone controls as desired.**

NOTE:
Even if the receiver power cord is unplugged, data remains in memory for several days. If the contents of the memory are erased, preset once more.

Last station memory
When the POWER switch is pressed to turn the power on, the last station received before the power was previously turned off will be tuned in again.
When the power is ON, if the FM/AM button is pressed, the last station received before the FM/AM button was previously pressed will be tuned in again.

RECEIVING FM SIMULCAST TV PROGRAMS

By combining a TV set and a VCR (or TV tuner), you can receive FM simulcast TV programs (stereo TV sound transmitted from an FM radio station) while viewing the video portion on your TV.

1. **Select the desired TV program with the TV set.**
2. **Tune in the desired FM simulcast TV program on the receiver.**
3. **Adjust the volume and tone controls as desired.**

OPERATING THE AUDIO/VIDEO COMPONENTS

Press the power switch to the ON position, and turn on the power to the other components you wish to use (for example, TV, VCR, cassette deck, etc.).

PLAYBACK

1. **Use the input selector buttons to select the desired program source.**

Program Source	Input Selector
To play back on a VCR connected to the VCR/TAPE 1 jacks, or to play back on a cassette deck.	VCR/TAPE 1
To listen to a tape on the cassette deck connected to TAPE 2 MONITOR jacks.	TAPE 2 MONITOR
To listen to records.	PHONO
To watch a LaserDisc/DVD.	LD/DVD
To listen to compact discs.	CD

* If you select a music source other than TAPE 2, switch OFF the TAPE 2 MONITOR.

2. **Operate the appropriate audio/video component to playback the program source.**
   For a video source, switch the TV connected to this unit to the video input mode.
3. **Adjust the volume and tone controls as desired.**
   Refer to pages 5 and 18 for details concerning surround operation.(Not available on the VSX-295 model)

RECORDING WITH A CASSETTE DECK

RECORDING WITH VCR/TAPE 1

If the TAPE 2 MONITOR button is ON, press to turn OFF.

1. **Select the source you want to record from with the input selector buttons.**
   When recording to AM or FM broadcasts, select a preset station using the STATION (+,–) button. If the desired station has not been preset, tune in the station.
2. **Start recording on the cassette deck.**
3. **Play the desired program source (record, compact disc, etc.).**
   The volume, balance and tone controls have no effect on the recording.

RECORDING WITH TAPE 2

1. **Select the source you want to record from with the input selector buttons.**
2. **Start recording on the TAPE 2 cassette deck.**
3. **Play the desired program source (record, compact disc, etc.).**
   The volume, balance, and tone controls have no effect on the recording.

When copying a tape, playback on the VCR/TAPE 1 cassette deck and record on the TAPE 2 cassette deck.

Tape monitoring

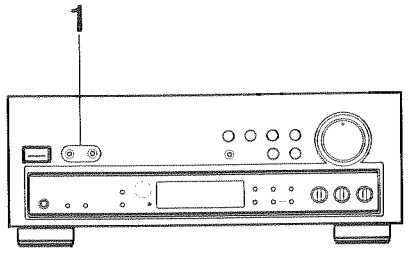
When recording is performed on a cassette deck equipped with monitoring function, the recorded sound can be monitored through the speaker system by pressing the TAPE 2 MONITOR button to ON.

VIDEO RECORDING

1. **Select the source to record from with the input selector buttons.**
   When recording from a LaserDisc to VCR → LD/DVD
2. **Begin recording on the VCR.**
   For VCR, select a line input (external input).
3. **Begin playback on the component selected with the input selector.**
   The volume, balance and tone controls have no effect on the recording.

SURROUND EFFECT AND DOLBY 3CH LOGIC (Not available on the VSX-295 model)

SURROUND LEVEL ADJUSTMENT



1. **Select the desired mode with the DOLBY PRO LOGIC button, SFC MODE button.**
   The SFC MODE changes in sequence each time the SFC MODE button is pressed. (The SFC indicator lights.)

   STUDIO → SIMULATED SURROUND → off → STUDIO

2. **When you select DOLBY PRO LOGIC, press the CENTER MODE button of the remote control unit.**
   The CENTER MODE changes in sequence each time this button is pressed.
   Use the CENTER MODE button to switch to DOLBY 3CH LOGIC.

DOLBY PRO LOGIC SURROUND:

NORMAL → WIDE → PHANTOM → 3CH LOGIC → NORMAL

3. **Use SPEAKERS button to turn on front speakers.**
4. **Adjust MASTER VOLUME to a suitable listening level.**
5. **Adjust the BALANCE control to the center position.**
6. **Press the remote control's TEST TONE button to switch the test tone ON.**
   The test tone is output from each of the speakers in the following order:

   Front Left → Center *1 → Front Right → Surround (Rear) → Front Left

7. **Adjust so that the volume level is the same from each of the speakers.**
   - Use the CENTER LEVEL +, - buttons of the remote control unit to adjust the center speaker volume level. *2
   - Use the REAR LEVEL +,- buttons of the remote control unit to adjust the rear speaker volume level. *3
8. **Press the remote control's TEST TONE button to switch the test tone OFF.**

NOTE:

**1 When the CENTER MODE button is in PHANTOM position, no test tone is output from the center speaker.*

**2 Only when using DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC, can you adjust the CENTER LEVEL.*

**3 When using DOLBY 3CH LOGIC, the REAR speakers are not used.*

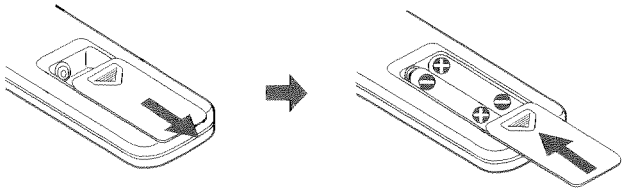
SETTING THE DELAY TIME

When using DOLBY PRO LOGIC SURROUND or SIMULATED SURROUND, you can set the delay time between 15 ms and 30 ms (5 ms step). The standard setting is 20 ms, but you can select any setting of your choice.
When you press the DELAY TIME button on the remote control, the current delay time is displayed. Pressing it again changes the delay time.

VSX-405 ,VSX-305 REMOTE CONTROL OPERATION

Refer to page 22 for an explanation of VSX-295 remote control operation.

PUTTING BATTERIES INTO THE REMOTE CONTROL UNIT

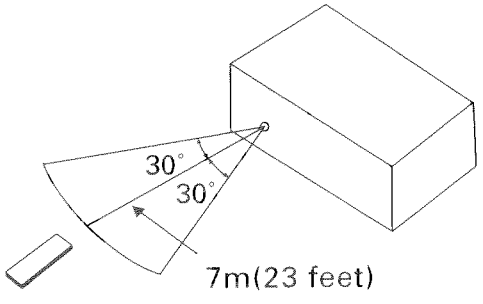


1. **Open the battery compartment cover on the rear of the remote control unit. The cover should open easily if you slide it in the direction of the arrow while pressing on it with your thumb.**
2. **Take out the two supplied batteries size ["AA" (IEC R6)] and insert them into the battery compartment in accordance with the indications in the compartment.**
3. **Close the cover of the battery compartment.**

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A.
Always insert batteries into the battery compartment correctly matching the positive (+) and negative (–) polarities, as indicated inside the compartment.
B.
Never mix new and used batteries.
C.
Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

REMOTE CONTROL RANGE



When operating the remote control unit, point the front of the unit at the front panel of the receiver. The remote control unit may be used within a range of about 7 meters (23 feet) from the remote sensor, within angles of up to about 30 degrees.
Performance of the remote control unit is adversely affected in the presence of a strong fluorescent light. Keep such lights away, especially from the sensor window.

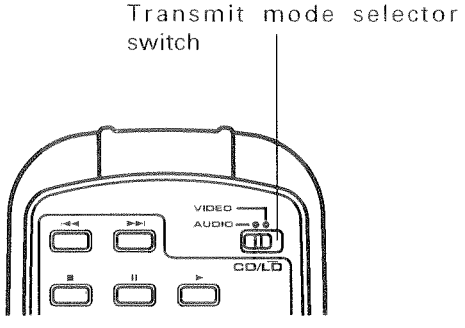
Battery Replacement

As battery power runs down, the range over which the remote control unit can operate decreases. When the range becomes too short, change the batteries.

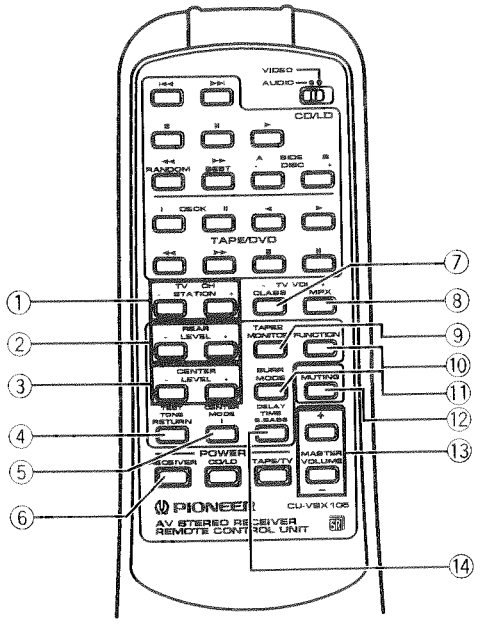
- The accessory remote control unit can be used to control some functions of other Pioneer cassette decks, CD players, tuners, VCRs, LD players and TVs (only those bearing the Pioneer mark).
- When the accessory remote control unit is used to operate other PIONEER components with the mark, it cannot be used to operate functions which do not correspond to the functions listed on the remote control unit.

Transmit mode selector switch

AUDIO:
Select this position for remote control operation of audio equipment such as a CD player or cassette deck.
VIDEO:
Select this position for remote control operation of video equipment such as an LD player, DVD or VCR or TV.



RECEIVER TUNER AND AMPLIFIER SECTION OPERATION



[TUNER SECTION OPERATION]

Set the AUDIO/VIDEO switch to AUDIO.

① STATION "+" (Up), "–" (Down) buttons
Used for recalling memorized stations.

⑦ CLASS button
Use to switch between preset memory classes 1 to 3.

⑧ MPX button
Use to switch between MONO and AUTO STEREO when receiving FM broadcasts.

[AMPLIFIER SECTION OPRATION]

② REAR LEVEL (+, –) buttons
AUDIO/VIDEO switch : VIDEO position and AUDIO position
Function as REAR LEVEL adjustment button.

③ CENTER LEVEL (+, –) buttons
AUDIO/VIDEO switch : AUDIO position and VIDEO position
Function as CENTER LEVEL adjustment button

④ TEST TONE/RETURN button
AUDIO/VIDEO switch : VIDEO position
Functions as a TEST TONE button for switching the test tone ON/OFF.
Used to adjust the test tone volume level from each speaker. When the test tone is switched ON, the test tone is output through each speaker in turn for about two seconds. (The channel outputting the test tone is indicated in the display.) Adjust volume level so that it is the same from each speaker.

AUDIO/VIDEO switch : AUDIO position
Functions as a RETURN button.
Press this button to return the receiver to its initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

TAPE 2 MONITOR	OFF	MUTING	OFF
SFC MODE	OFF	FUNCTION	TUNER
SUPER BASS	OFF		(FM)

And SPEAKERS buttons switch as follows.

NOTE:
Press the RETURN button, and the last FM station selected is received. If reception of the frequency last selected is not possible, the mode automatically switches to AUTO TUNING.

⑤ CENTER MODE
AUDIO/VIDEO switch: VIDEO position
Functions as a CENTER MODE button, enabling selection of the DOLBY PRO LOGIC SURROUND.
This also enables the selection of CENTER MODE (NORMAL, WIDE, PHANTOM) or DOLBY 3CH LOGIC.

NORMAL → WIDE → PHANTOM → 3CH LOGIC → NORMAL

⑥ RECEIVER POWER button
Switches the receiver power ON/STANDBY.

⑨ TAPE2 MONITOR button
Switches TAPE 2 MONITOR ON/OFF.

⑩ FUNCTION button
Press to select the receiver input.

VCR/TAPE 1 → PHONO → TUNER → CD → LD/DVD → VCR/TAPE 1

⑪ SURR. (Surround) MODE button
The surround mode is switched in the following manner each time the button is pressed:

DOLBY PRO LOGIC SURROUND → STUDIO → SIMULATED SURROUND → OFF → DOLBY PRO LOGIC SURROUND

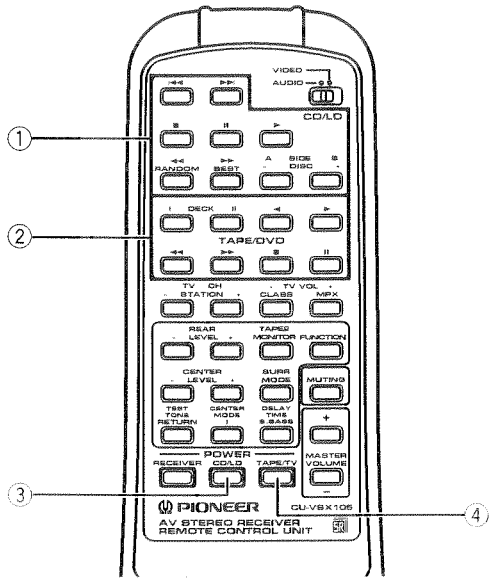
⑫ MUTING button
Press to temporarily reduce sound. When set to the on position, MUTING is displayed. Press again to return to the original volume level.

⑬ MASTER VOLUME (+, –) buttons
Use to adjust the overall volume level.

⑭ DELAY TIME/SUPER BASS button
AUDIO/VIDEO switch : VIDEO position
Functions as a DELAY TIME button. You can change rear speaker delay time during DOLBY PRO LOGIC SURROUND or SIMULATED SURROUND opetration.

AUDIO/VIDEO switch : AUDIO position
Functions as a SUPER BASS button. Switch ON when you want to boost bass. The SUPER BASS indicator lights.

CD PLAYER, CASSETTE DECK, TV, DVD, and LD PLAYER OPERATION



[CD PLAYER OPERATION]

Set the AUDIO/VIDEO switch to AUDIO.

① Operation buttons

|◄◄ (TRACK SEARCH) button:
Returns to the beginning of the track currently playing.

►►| (TRACK SEARCH) button:
Advances to the next track.

■ (STOP) button:
Stops playback.

II (PAUSE) button:
Pause.

► (PLAY) button:
Selects playback.

RANDOM button:
The tracks on the disc are selected and played back one time each in computer-selected RANDOM order.

BEST button:
This can be used with file type CD players featuring a BEST function. Simply press to store your favorite tracks in memory for future playback.
Some file-type CD players cannot be controlled using this button.
A simple way to store your favorite tracks in memory for future playback is to press the BEST button during playback of the tracks. Up to 25 tracks can be stored in the "best memory."

DISC SELECT (–, +) buttons:
Use to select a disc with a file-type CD player.
Only the + button may be used to select the DISC No. (1 to 6) for a multi CD player, or used to select DISC I/II for a twin-tray CD player.
NOTE:
Some multi CD players cannot be controlled using this button.

③ CD POWER button

Switches CD player power ON/OFF.

[CASSETTE DECK OPERATION]

Set the AUDIO/VIDEO switch to AUDIO.

② Operation buttons

DECK I, II button:
Switches DECK I and DECK II.
When using a single cassette deck, select DECK II.

◄ (PLAY) button:
Selects reverse playback.

► (PLAY) button:
Selects forward playback.

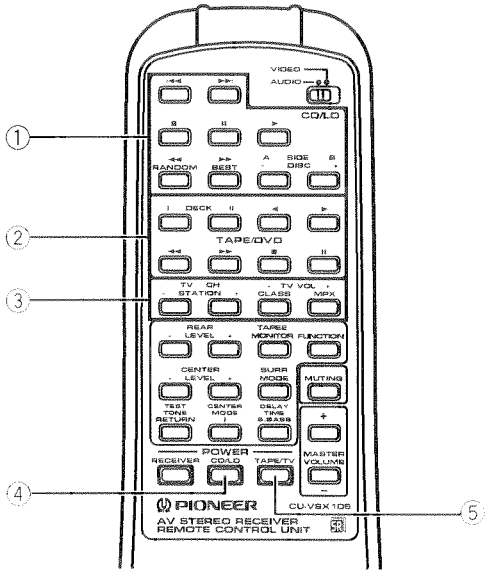
◄◄, ►► (FF) button:
Rapidly advances the tape in the direction of the arrows.

■ (STOP) button:
Stops the tape transport.

II (PAUSE) button:
Pause

④ TAPE POWER button

Switches cassette deck power ON/OFF.



[LD PLAYER OPERATION]

Set the AUDIO/VIDEO switch to VIDEO.

① Operation buttons

|◄◄ (TRACK SEARCH) button:
Return to the beginning of the track currently playing.

►►| (TRACK SEARCH)button:
Advances to the next track.

■ (STOP) button:
Playback is stopped when pressed once.
With some LD players, pressing the button twice may open the disc tray.

II (PAUSE) button:
Pause.

► (PLAY) button:
Selects playback.

◄◄ (SCAN) button:
Selects fast backward.

►► (SCAN) button:
Selects fast forward.

DISC SIDE (A, B) button:
Changes the disc side in an LD player capable of playing both sides of a disc.

④ LD POWER button
Switches LD player power ON/OFF.

[TV OPERATION]
Set the AUDIO/VIDEO switch to VIDEO.

③ Operation buttons
TV VOL (VOLUME) (–/+) buttons:
Raises and lowers the volume.
TV CH (Channel) (–/+) buttons:
Switches TV channels in order.

⑤ TV POWER button
Switches the power of the TV ON/OFF.

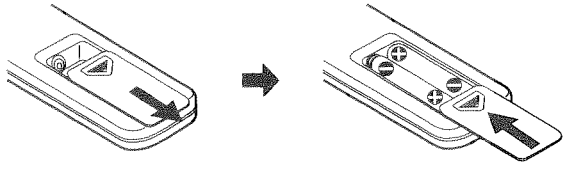
[DVD OPERATION]
Set the AUDIO/VIDEO switch to VIDEO.

② Operation buttons
■ **(STOP) button:**
Playback is stopped when pressed once.
II **(PAUSE) button:**
Pause.
► **(PLAY) button:**
Selects playback.
◄◄ **(SCAN) button:**
Selects fast backward.
►► **(SCAN) button:**
Selects fast forward.

VSX-295 REMOTE CONTROL OPERATION

Refer to page 19 for an explanation of VSX-405,VSX-305, remote control operation.

PUTTING BATTERIES INTO THE REMOTE CONTROL UNIT

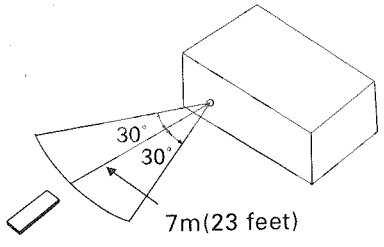


1. **Open the battery compartment cover on the rear of the remote control unit. The cover should open easily if you slide it in the direction of the arrow while pressing on it with your thumb.**
2. **Take out the two supplied batteries size ["AA" (IEC R6/UM-3)], and insert them into the battery compartment in accordance with the indications in the compartment.**
3. **Close the cover of the battery compartment.**

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A. Always insert batteries into the battery compartment correctly matching the positive (+) and negative (–) polarities, as indicated inside the compartment.
B. Never mix new and used batteries.
C. Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

REMOTE CONTROL RANGE



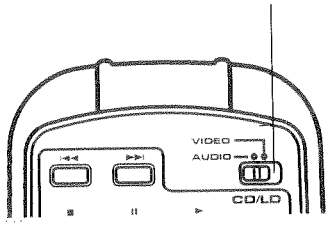
When operating the remote control unit, point the front of the unit at the front panel of the receiver. The remote control unit may be used within a range of about 7 meters (23 feet) from the remote sensor, within angles of up to about 30 degrees.
Performance of the remote control unit is adversely affected in the presence of a strong fluorescent light. Keep such lights away, especially from the sensor window.

Battery Replacement
As battery power runs down, the range over which the remote control unit can operate decreases. When the range becomes too short, change the batteries.

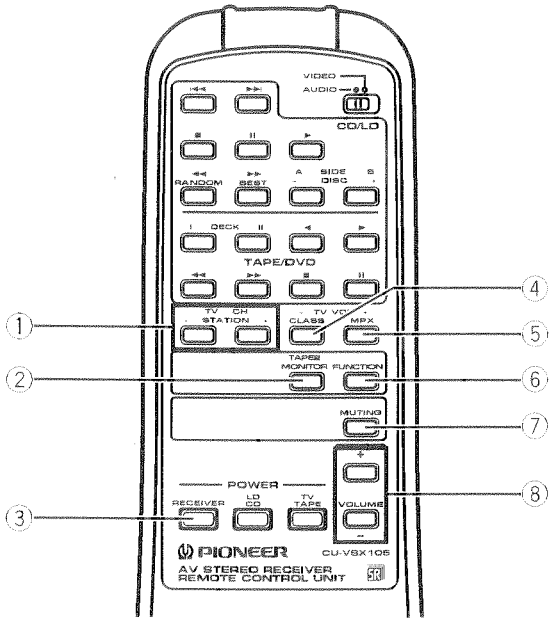
- The accessory remote control unit can be used to control some functions of other Pioneer cassette decks, CD players, tuners, VCRs, LD players and TVs (only those bearing the Pioneer mark).
- When the accessory remote control unit is used to operate other PIONEER components with the mark, it cannot be used to operate functions which do not correspond to the functions listed on the remote control unit.

Transmit mode selector switch
AUDIO:
Select this position for remote control operation of audio equipment such as a CD player or cassette deck.
VIDEO:
Select this position for remote control operation of video equipment such as an LD player, DVD or VCR or TV.

Transmit mode selector switch.



RECEIVER TUNER AND AMPLIFIER SECTION OPERATION



[TUNER SECTION OPERATION]

Set the AUDIO/VIDEO Switch to AUDIO.

① STATION "+" (Up) "–" (Down) buttons

Used for recalling memorized stations.

④ CLASS button

Used to switch between preset memory classes 1 to 3.

⑤ MPX button

Use to switch between MONO and AUTO STEREO when receiving FM broadcasts.

[AMPLIFIER SECTION OPERATION]

② TAPE 2 MONITOR button

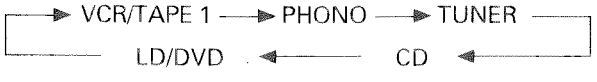
Switches TAPE 2 MONITOR ON/OFF.

③ RECEIVER POWER button

Switches the receiver power ON/STANDBY.

⑥ FUNCTION button

Press to select the receiver input.



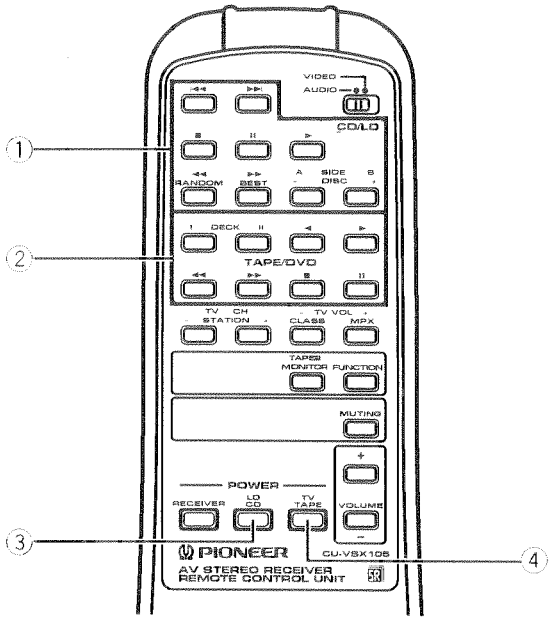
⑦ MUTING button

Press to temporarily reduce sound. When set to the on position, MUTING is displayed. Press again to return to the original volume level.

⑧ VOLUME (+, –) buttons

Use to adjust the overall volume level.

CD PLAYER, CASSETTE DECK, TV, DVD, and LD PLAYER OPERATION



[CD PLAYER OPERATION]

Set the AUDIO/VIDEO switch to AUDIO.

① Operation buttons

|◄◄ (TRACK SEARCH) button:
Returns to the beginning of the track currently playing.

►►| (TRACK SEARCH) button:
Advances to the next track.

■ (STOP) button:
Stops playback.

II (PAUSE) button:
Pause.

► (PLAY) button:
Selects playback.

RANDOM button:
The tracks on the disc are selected and played back one time each in computer-selected RANDOM order.

BEST button:
This can be used with file type CD players featuring a BEST function. Simply press to store your favorite tracks in memory for future playback.
Some file-type CD players cannot be controlled using this button.
A simple way to store your favorite tracks in memory for future playback is to press the BEST button during playback of the tracks. Up to 25 tracks can be stored in the "best memory."

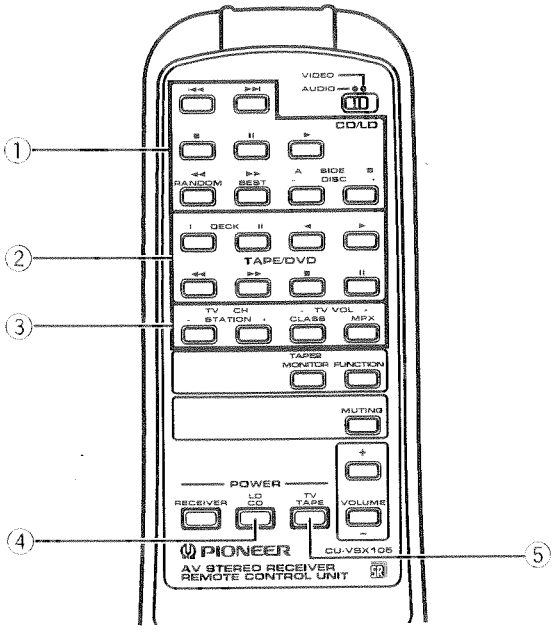
DISC SELECT (–, +) buttons:
Use to select a disc with a file-type CD player.
Only the + button may be used to select the DISC No. (1 to 6) for a multi CD player, or used to select DISC I/II for a twin-tray CD player.
NOTE:
Some multi CD players cannot be controlled using this button.

③ CD POWER button
Switches CD player power ON/OFF.

[CASSETTE DECK OPERATION]
Set the AUDIO/VIDEO switch to AUDIO.

② Operation buttons
DECK I, II button:
Switches DECK I and DECK II.
When using a single cassette deck, select DECK II.
◄ **(PLAY) button:**
Selects reverse playback.
► **(PLAY) button:**
Selects forward playback.
◄◄, ►► **(FF) button:**
Rapidly advances the tape in the direction of the arrows.
■ **(STOP) button:**
Stops the tape transport.
II **(PAUSE) button:**
Pause.

④ TAPE POWER button
Switches cassette deck power ON/OFF.



[LD PLAYER OPERATION]
Set the AUDIO/VIDEO switch to VIDEO.

① Operation buttons
|◄◄ **(TRACK SEARCH) button:**
Returns to the beginning of the track currently playng.
►►| **(TRACK SEARCH) button:**
Adbances to the next track.
■ **(STOP) button:**
Playback is stopped when pressed once.
With some LD players, pressing the button twice may open the disc tray.
II **(PAUSE) button:**
Pause.
► **(PLAY) button:**
Selects playback.
◄◄ **(SCAN) button:**
Selects fast backward.
►► **(SCAN) button:**
Selects fast forward.
DISC SIDE (A, B) button:
Changes the disc side in an LD player capable of playing both sides of a disc.

④ LD POWER button
Switches LD player power ON/OFF.

[DVD OPERATION]
Set the AUDIO/VIDEO switch to VIDEO.

② Operation buttons
► **(PLAY) button:**
Selects playback.
◄◄ **(SCAN) button:**
Selects fast backward.
►► **(SCAN) button:**
Selects fast forward.
■ **(STOP) button:**
Playback is stopped when pressed once.
II **(PAUSE) button:**
Pause.

[TV OPERATION]
Set the AUDIO/VIDEO switch to VIDEO.

③ Operation buttons
TV CH (Channel) (–/+) buttons:
Switches TV channels in order.
TV VOL (VOLUME) (–/+) buttons:
Raises and lowers the volume.

⑤ TV POWER button
Switches the power of the TV ON/OFF.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
Power does not come on even when the POWER switch is pressed.	• Power cord is disconnected. • Instances are rare, but the problem may be due to the operation of the protector circuit.	• Connect cord securely. • Unplug the power cord of the unit from the AC wall outlet, then plug it in again.
Control is not possible regardless of what operation button is pressed.	• Static electricity affected the unit when the air is dry, such as in winter.	• Unplug the power cord of the unit from the AC wall outlet, then plug it in again. • If static electricity is pronounced, it is recommended that you operate the unit using the remote control unit.
No sound is produced, even when the input selector button is selected.	• Connections are incorrect.	• Consult pages 9 — 12 and perform connections correctly.
	• The MUTING button is pressed.	• Press the MUTING button to cancel the MUTING effect.
	• VOLUME is turned down.	• Raise volume.
	• Speaker connecting wires are disconnected from speaker terminals.	• Connect wires to terminals securely.
	• One or both of the input cords are disconnected.	• Connect input cords securely.
	• TAPE 2 MONITOR button is in the ON position.	• Press the button again to the OFF position.
	• The SPEAKERS button is OFF.	• Switch the SPEAKERS button ON.
No picture is produced, even when the input selector button is selected.	• Connections are incorrect.	• Consult pages 9 — 12 and perform connections correctly.
	• The VCR and the selected input selector button are not correct.	• Press the correct button.
High noise level.	• Station has not been tuned in to correct frequency.	• Tune the station in correctly.
	• Antenna has not been connected or has become disconnected.	• Connect the antenna securely.
	FM reception • Accessory FM antenna remains bundled up or it is not pointing in right direction.	• Straighen out the antenna and point in the direction which provides optimum reception.
	• Weak broadcasting station signals.	• Replace accessory FM antenna with outdoor FM antenna.
	AM reception • AM loop antenna is not pointing in right direction.	• Change the direction of AM loop antenna and find a position where reception is improved.
	• Weak broadcasting station signals.	• Erect outdoor AM antenna or connect ground wire.
	• Noise being picked up from this unit and other equipment (especially electrical appliances using motors or fluorescent lights).	• Turn off the appliances generating noise or remove them from vicinity of the stereo equipment.

TROUBLESHOOTING

Symptom	Cause	Remedy
No auto stop.	• Input signals are not strong enough.	• Separate the antenna from the unit by some distance.
TV source cannot be seen when the VCR's TV tuner is used.	• TV antenna is not connected to VCR, or connections are faulty.	• Connect the TV antenna to the VCR.
	• You are attempting to watch a TV source using a VCR with copy system connections. In general, when copy system connections are made, the VCR's TV tuner function ceases to operate. For details, consult the operating instructions of your VCR.	• Consult the VCR's operating instructions, and connect antenna correctly. • Disconnect the copy system connection (TV tuner function will operate).
No rear sound is produced.	• The SFC MODE switch is set incorrectly. • The REAR LEVEL is turned down. • Speaker connecting wires are disconnected from REAR SPEAKERS terminals.	• Set correctly. • Refer to page 18 and adjust the rear level. • Connect wires to terminals securely.
Remote control does not work.	• Batteries are dead or no batteries in remote control unit. • Poor angle or too great a distance from the remote sensor window. • There is an obstacle between you and the remote sensor window. • A fluorescent light is shining on the remote sensor window.	• Insert new batteries. • Use within 7 meters (23feet) and within a 30 degree angle of the remote sensor window. • Change your position or move the obstacle. • Move the receiver so fluorescent light does not shine directly on the receiver's front panel remote sensor window.

Abnormal functioning of this unit may be caused by static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

SPECIFICATIONS

Amplifier section

<VSX-405,VSX-295>

Continuous average power output of 100 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.9 % total harmonic distortion (front).**

[Multi-voltage model only]
Continuous Power Output (DIN)
Front (1kHz, T.H.D. 1%, 8Ω) ..... 115W+115W

<VSX-405>

Continuous Power Output
Front ..... 70 W + 70 W (1 kHz, 0.8 %, 8 Ω)
Center ..... 70 W (1 kHz, 0.8 %, 8 Ω)
Rear ..... 70 W (1 kHz, 0.8 %, 8 Ω)

<VSX-305>

Continuous average power output of 60 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.9 % total harmonic distortion (front).**

Continuous Power Output
Front ..... 60 W + 60 W (1 kHz, 0.9 %, 8 Ω)
Center ..... 60 W (1 kHz, 0.9 %, 8 Ω)
Rear ..... 60 W (1 kHz, 0.9 %, 8 Ω)

Dynamic Power (2 Ω/4 Ω/8 Ω)
VSX-405/VSX-295 ..... 170 W/160 W/130 W
VSX-305 ..... 110 W/100 W/70 W

Input (Sensitivity/Impedance)
PHONO MM ..... 2.8 mV/47 kΩ
CD, VCR/TAPE 1, TAPE 2, LD/DVD ..... 200 mV/47 kΩ
Phono Overload Level (T.H.D. 0.1 %, 1 kHz)
PHONO MM ..... 100 mV
Frequency Response
PHONO MM ..... 20 Hz to 20,000 Hz ± 0.3 dB
CD, VCR/TAPE 1, TAPE 2, LD/DVD 5 Hz to 100,000 Hz $^{+3}_{0}$ dB
Output (Level/Impedance)
VCR/TAPE 1 REC, TAPE 2 REC ..... 200 mV/2.2 kΩ
VCR OUT ..... 200 mV/2.2 kΩ
Tone Control
BASS ..... ± 8 dB (150 Hz)
TREBLE ..... ± 8 dB (10 kHz)
SUPER BASS ..... +8 dB (80 Hz)
Signal-to-Noise Ratio (IHF, short circuited, A network)
PHONO MM ..... 72 dB
CD, VCR/TAPE 1, TAPE 2, LD/DVD ..... 96 dB
Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]
PHONO MM ..... 75 dB
CD, VCR/TAPE 1, TAPE 2, LD/DVD ..... 79 dB

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*
** *Measured by Audio Spectrum Analyzer.*

VIDEO Section

Input (Sensitivity/Impedance)
VCR, LD ..... 1 Vp-p/75 Ω
Output (Level/Impedance)
VCR ..... 1 Vp-p/75 Ω
Frequency Response
VCR, LD → MONITOR ..... 5 Hz to 7 MHz $^{+3}_{0}$ dB
Signal-to-Noise Ratio ..... 55 dB
Cross Talk ..... 55 dB

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono:11.2 dBf, IHF (1.0 µV/75 Ω)
50 dB Quieting Sensitivity ..... Mono:16.8 dBf
Stereo: 38.6 dBf
Signal-to-Noise Ratio ..... Mono:73 dB (at 85 dBf)
Stereo:70 dB (at 85 dBf)
Distortion ..... Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity ..... 60 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (±1) dB
Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range ..... 531 kHz to 1,602 kHz (9 kHz step)
530 kHz to 1,700 kHz (10 kHz step)
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Selectivity ..... 25 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements
U.S. and Canadian models ..... AC 120 V, 60 Hz
Multi-voltage model .. AC 110 V/120-127 V/220 V/240 V (Switchable), 50/60 Hz
Power Consumption
VSX-405
U.S. and Canadian models ..... 200 W, 300 VA
Multi-voltage model ..... 570 W
VSX-305 ..... 185W,290VA
VSX-295 ..... 540 W
In Standby Condition ..... 3 W
AC Outlet
U.S. and Canadian models
SWITCHED ..... 100 W (0.8 A) MAX
Multi-voltage model
SWITCHED ..... 100 W MAX
Dimensions ..... 420 (W) x 140 (H) x 328 (D) mm
16-9/16 (W) x 5-1/2 (H) x 12-15/16 (D) in
Weight (without package)
U.S. and Canadian models ..... 7.2 kg (15 lb 13 oz)
Multi-voltage model
VSX-405 ..... 7.5 kg (15lb 76oz)
VSX-295 ..... 7.3 kg (15lb 34oz)

Furnished Parts

FM Antenna 1
AM Loop Antenna 1
Dry Cell Batteries
[size "AA" (IEC R6)] 2
Remote Control Unit 1
Operating Instructions 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

Published by Pioneer Electronic Corporation.
Copyright © 1995 Pioneer Electronic Corporation.
All rights reserved.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS [USA] INC. P.O. BOX 1540, Long Beach, California 90801-1540
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2, Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium, TEL: 03/570.05.11
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia, TEL: [03] 580-9911
PIONEER ELECTRONICS DE MEXICO S.A. DE C.V. Augusto Rodin No. 128 PB Col. San Juan Mixcoac Mexico D.F. CP.03730 TEL: 52-5-598-3950

Printed In Singapore <ARB7065-B>